

ASSOCIATION OF AMERICAN COLLEGES

BULLETIN

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No. 4

**The Program of the Twelfth
Annual Meeting**

**Practical Problems of College
Architecture**

Academic Credits in Religion

College Personnel Technique

Edited by

ROBERT L. KELLY

Executive Secretary of the Association

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CALENDAR OF EDUCATIONAL MEETINGS

New York, January 11-16

1925

MONDAY AND TUESDAY

Fifteenth Annual Meeting of the Council of Church Boards of Education, International House, Riverside Drive and 124th St., New York City. Sessions through the day and evening.

WEDNESDAY

Meetings of the Educational Associations of the Churches. (Places to be announced later).

THURSDAY

Forenoon: Meetings of the Church Educational Associations.

Afternoon: Mass Meeting on "Development of Personality Through Religion and Education," Hotel Astor, Times Square, New York City, arranged by the Council of Church Boards of Education.

Evening: Twelfth Annual Meeting of the Association of American Colleges, (Dinner Session), Hotel Astor, New York.

FRIDAY

Association of American Colleges—three sessions; morning and afternoon sessions at Hotel Astor; evening session at the Metropolitan Museum of Art, Central Park East.

SATURDAY

Forenoon—Association of American Colleges, Hotel Astor.

THE TWELFTH ANNUAL MEETING—1926

The annual meeting of the Association of American Colleges for 1926 is to be at the Hotel Astor, New York City. The opening dinner session begins at 7:00 P. M., Thursday, January 14. Reservations should be made to the office of the Association at \$3.50 per plate. Tickets will be furnished in advance and table assignments made in accordance with the wishes of members. Table parties of not to exceed ten persons may be made up as desired, provided members make their desires known by January 1.

The tentative program is presented below. The theme for the entire meeting is **THE EFFECTIVE COLLEGE**. Through the courtesy of the Committee on Education of the Metropolitan Museum of Art, on Friday evening the Association will be the guest of the Museum. This affords a rare opportunity to our members.

A feature of the annual meeting this year will be an exhibit of college architecture. The Museum has set aside a room for this purpose and is setting the exhibit up. Colleges may send their contribution direct to Dr. Huger Elliott, Metropolitan Museum, Central Park East, New York City.

There is every indication of a notable meeting. The science of educational administration is making progress and the Association of American Colleges is making no small contribution to this science.

The City Club, 55 W. 44th Street, extends the courtesies of the Club to all members of the Association during their visit to New York.

TENTATIVE PROGRAM
OF THE TWELFTH ANNUAL MEETING
OF THE ASSOCIATION OF
AMERICAN COLLEGES

Hotel Astor, New York

January 14-16, 1926

The special exhibit of College Architecture will be found in the corridors of the Metropolitan Museum, at the foot of the staircase from the Armor Galleries and in Class Room B adjoining. The guards will admit members of the Association to the Museum on pay days beginning January 14, without charge. Make yourself known.

Members of the Association who wish to visit the Pierpont Morgan Library should secure tickets of admission at once from Dr. Kelly.

The subject of the entire meeting is "THE EFFECTIVE COLLEGE." The purpose is to make a re-definition of the study made by the Association under a similar title in 1917.

THURSDAY, JANUARY 14

7:00 P. M. *Annual Dinner.**

The Address of the President, President Frank Aydelotte, Swarthmore College.

Seven minute talks by

Dr. Max Farrand, The Commonwealth Fund.

Senator Simon Guggenheim, The Guggenheim Fellowships.

Dr. M. J. Rendal, The Rhodes Trust.

Music by the Columbia University Glee Club.

FRIDAY, JANUARY 15

9:30 A. M.

Announcement of Committees.

The Unit Size of an Effective College.

(20) President Harlan Updegraff, Cornell College.

(20) President Rufus B. von Klein-Smid, University of Southern California.

* Informal reservations at \$3.50 per cover (with accompanying check) may be sent to the Association Office, 111 Fifth Ave., New City.

*Discussion.**Athletics in an Effective College.*

(20) Dr. Howard Savage, The Carnegie Foundation for the Advancement of Teaching.

(30) Seven minute talks by

President Paul D. Moody, Middlebury College.

President Charles A. Richmond, Union College.

Professor Robert T. Hinton, Georgetown College.

Secretary F. D. Fackenthal, Columbia University.

*Discussion.**Personnel Technique in an Effective College.*

(20) Dr. Adam Leroy Jones, Columbia University.

*Discussion.**Academic Freedom and Academic Tenure in an Effective College.*

(7) Dean John R. Effinger, University of Michigan.

*2:15 P. M.**What Should Education Cost in an Effective College?*

(20) Comptroller George C. Wintringer, Princeton University.

The College Plant and the Business Administration of an Effective College.

(20) Comptroller W. O. Miller, University of Pennsylvania.

*Discussion.**A Department of College Administration.*

(10) Director Robert J. Leonard, Teachers College, Columbia University.

3:30 P. M.

BUSINESS SESSION

Annual Report of the Executive Secretary.

Dr. Robert L. Kelly.

Annual Report of the Executive Committee.

Annual Report of the Secretary-Treasurer.

President Bernard I. Bell, St. Stephen's College.

Consideration of the New Constitution.

Reports of Committees.

Miscellaneous Business.

8:00 P. M.

AT THE METROPOLITAN MUSEUM OF ART*

An Effective Program in the Fine Arts in a Liberal College.

Secretary Henry W. Kent, and others, Metropolitan Museum.

Dr. Eugene Noble, The Juillard Musical Foundation.

Professor Henry V. Hubbard, School of Landscape Architecture, Harvard University.

Mr. C. C. Zantzinger, F.A.I.A.

(20) Mr. Ralph Adams Cram, F.A.A.S., F.A.I.A.
(conditional acceptance).

Discussion.

SATURDAY, JANUARY 16

9:30 A. M.

The Curriculum in an Effective College.

(20) Dr. Clyde Furst, Secretary of the Carnegie Foundation for the Advancement of Teaching.

(20) Professor Leon Richardson, Dartmouth College.

* Entrance on 83d Street.

*Discussion.**Faculty and Student Scholarship in an Effective College.*

(20) Dean Ernest H. Wilkins, The University of Chicago.

(20) Dr. Vernon L. Kellogg, The National Research Council.

(20) Professor John Tatlock, Harvard University.

Discussion.

Unfinished Business.

12:00 Adjournment.

**Union Mass Meeting Under the Auspices of the
Council of Church Boards of Education**

At 2:00 P. M.

Thursday Afternoon, January 8

Hotel Astor, New York

Topic—Personality Through Religion and Education.

Speakers: Dean Herbert E. Hawkes, Columbia University.

Dr. Joseph Fort Newton, Philadelphia.

President Walter A. Jessup, The State University of Iowa.

QUESTIONS AND ANSWERS ON PRACTICAL PROBLEMS OF COLLEGE ARCHITECTURE

Just before the close of the last academic year your Executive Secretary sent a letter to the members of the Association which contained these two paragraphs:

"It has been suggested by several members of the Association that this office might be a clearing-house of information on all subjects related to college architecture and the college plant.

"As a test of the demand for this service, I ask you to send me the special questions—the more practical the better—which are confronting you just now or will in the near future, upon which you would be glad to have suggestions. I believe it may be possible to secure the help of some experts in this field and thereby render our members an important service.

The responses were so immediate and so numerous that the matter was presented to the officers of the American Institute of Architects. To make the story short, they appointed a distinguished architect to represent the Institute in collaboration with the Association in this matter.

In his letter to the Association Office of August 3, he made these suggestions:

"On the receipt of a letter of inquiry from a given university, we request that you transcribe on blank paper the query and forward same to me. I will then answer as promptly as is convenient, and this will enable you to forward to your correspondent the opinion of a practicing architect in whom you have confidence but who shall be nameless. By this means I will not be bound by any delicacy or prejudices growing out of my knowledge of your correspondent's identity, nor will he have any possible feeling that some enterprising practitioner is endeavoring to land a job.

"It might be well also to send correspondents copies of the enclosed Institute document, No. 186—'Functions of the Architect'—which is a statement made by the profession on the subject of the proper functions of the architect."

The plan as thus outlined began to operate in September. It was not expected, of course, that this long distance service on the part of an unknown architect for unknown colleges would reach the maximum of efficiency and yet many expressions of appreciation have come in from the college officers whose questions have received attention.

The writer expresses his own gratitude and that of the office of the Association, as well as that of the college officials concerned, for the unselfish service on the part of the American Institute of Architects and particularly of our consulting architect.

It is very much desired that some plan may be worked out whereby the members of this Association may have the advantages of the latest developments on the educational as well as the architectural side of all phases of plant construction. We hope to be able to make a further announcement along this line before long.

Acting upon the advice of the Executive Committee of the Association, some sample questions and answers are submitted, representing our program of service in this field. If it is considered advisable, others may be published later.

The fundamental suggestion, of course, to all inquirers is, "Employ a competent architect in whom you have confidence and study your problem with him. Every such architect is glad to have suggestions from a consulting architect."

QUESTIONS AND ANSWERS

No. 1

Q. It happens that a committee of our Board is planning to meet tomorrow to consider the project of a dormitory for women. We face the problem of the size of the dormi-

tory we should build, and the character. We have discussed the wisdom of the cottage plan, the quadrangle plan and the single building plan. We should appreciate any information that you have made at your disposal concerning the present trend in dormitories and the best policy.

A. A decision as to the wisdom of the cottage plan, the quadrangle plan or the single building plan will be based largely on the number of students that it is proposed to house, the topography of the college property, its orientation and the desired relation of the dormitory to present and future buildings.

The cottage plan as generally understood is a small unit to house not to exceed twenty-five students under the supervision of a resident head-of-house or house-mother. This system will produce a series of small units which can readily be grouped so as to create quadrangles or courts, and will be more costly than a larger building unit, probably.

In view of the high cost of building the modern trend is toward the larger dormitories. Consideration should be given to the accommodations required, whether in single or double rooms or in suites, and what sort of plumbing, *i.e.*, toilet and bathing facilities should be provided.

No. 2

Q. Our problems just ahead: We have to erect another dormitory, presumably improving upon former ones; and we must install a central heating plant to connect up the buildings now in the series, and the new dormitory. A gymnasium with swimming pool looms up ahead—how far ahead I cannot say. Briefly then, our prospective needs are a dormitory, a central heating plant, and a gymnasium.*

* The Standing Committee on Construction and Equipment of the Society of Directors of Physical Education in Colleges has collected valuable material relating to the construction and equipment of buildings for physical training and athletics, as well as plans for stadia, athletic fields, tennis courts, etc. The collection is in charge of Mr. L. E. Jallade, 129 Lexington Ave., New York, N. Y. Efforts are made to keep it up to date and it is, so far as is known, the best if not the only collection of the sort in existence. Individuals interested in any construction will be amply repaid by a study of the material.
Editor.

I am deeply interested in the plan referred to in your letter as I believe there is much wasted energy arising from the independent approach to these problems which have very much in common for us all. The one objection I have heard has referred to the attitude architects might take toward such a plan.

A. It is not clear whether or not there is in existence a group or comprehensive plan for this college.

The immediate need for a central heating plant can be determined by the employment of a competent consulting mechanical engineer, but its placing is so delicate a matter that no steps should be taken in the direction of building until the site has been determined in relation to the eventual future development of the college group.

The problems of dormitory and gymnasium design are quite within the capability of a competent architect. The swimming pool should be studied with an expert of large experience.

No. 3

Q. I would very much appreciate whatever service you might be willing to render us in connection with landscaping our campus.

A. Competent service in landscape design can only be had by the employment of a landscape architect. He will require a complete and accurate topographical survey of the areas concerning whose development he is requested to advise. The leading firm of landscape designers in the country is Messrs. Olmsted Brothers, Brookline, Mass. The national organization of landscape architects is the American Society of Landscape Architects, New York City. Depending on the magnitude of your project, you will probably have a preference as to employing a landscape architect either convenient to your region or at a distance. I suggest your correspondence with either of the above to obtain suggestions of men geographically available to you.

No. 4

Q. I am glad to learn that you are considering the use of the Association as a clearing house of information on all subjects relating to college architecture and the college plant. Just now we are confronted with the problem of deciding permanently the type of architecture which will prevail in the future. We are most seriously considering the collegiate Gothic. I have been seeking advice from every available source. I should like to get some expert advice on the question as to what would be the most appropriate type of college architecture for this particular region. We have one hundred and fifty miles of main Continental divide in full view from our campus.

I should also like to have some information as to whether the collegiate Gothic type has been found just as satisfactory in buildings of brick with stone trimmings as in buildings where the material used is entirely stone.

A. Choice of a type of architecture for a group of college buildings will probably in the last analysis be a matter of the personal taste of those in authority. The English Collegiate Gothic was a logical solution of the college requirements utilizing the materials at hand in the climate of England with the successful result in the earlier buildings at Oxford. The Cambridge authorities of a later date did not hesitate to build in the Renaissance style. The earlier of Oxford buildings are more useful for the purpose. In making a choice of the style, availability of materials should be considered. The Collegiate Gothic at Princeton is all of stone, and that of the University of Pennsylvania is brick and stone. Other examples could be quoted.

Whatever the style adopted for the exterior, the interior construction and finish will be generally fire-proof and the probable cost of interior work in any case about the same. The exterior will be more or less costly depending upon the elaboration of any architectural treatment, but a variety will not be a considerable percentage of the total cost of an individual building or of a group of build-

ings. The decision as to the type of architecture can, therefore, be made irrespective of cost.

No. 5

Q. One of the most practical and important problems confronting us is that of the placement of the various buildings on the campus. The next point is, who are the architects who are specialists on various college buildings, such as library, gymnasium, dormitory, etc.

A. The placing of the various buildings on the campus should be the result of a carefully studied comprehensive plan drawn with a view to controlling the eventual development of the college. On this the various buildings now foreseen to be eventually necessary should be grouped in their proper relations to the approaches to the college property and to one another.

With a view to the ultimate beauty and harmony of the college, it is essential that such a comprehensive plan be created. It is not necessary that the architects selected to design the various college buildings should be specialists in their lines, and it is perhaps undesirable that they should be, in that unless the size of the individual units which you contemplate is so considerable that they constitute building groups in themselves, such as, the Library group (Library), the Athletic group (Gymnasium), the Resident group (Dormitory).

No. 6

Q. I am decidedly interested in the architecture of small-college dormitories. I presume so many other college presidents are equally concerned in this matter that there will be an abundance of material soon available.

A. The solution of the problem of the college dormitory is not a difficult one. The accommodations offered to students vary with the appropriation and the specific needs of the particular college. A single small bed-room for each student, a single study-bed-room for each student, or two or three small single bed-rooms en suite with a study, are the different types of accommodations offered.

The toilet facilities should be on each floor. Bath-tubs are not generally installed for men.

A determination of the number of staircases, that is, of the subdivision of the dormitories into greater or smaller units, leads to a decision as to whether or no corridors are necessary. Fire exits should be carefully considered.

The number of floors desired, that is the permissible height of the dormitory in its relation to the other buildings of the college, is also a problem.

No. 7

Q. (1) What would be the most ideal, convenient and useful design of a model fraternity house to hold about two dozen fratmen and house a capable house-mother?

A. This question is so broad that no specific answer is possible. The design of a fraternity house presents no inherent difficulties and can be left to a competent architect for solution with every assurance that the results will be satisfactory.

The grouping of the fraternity houses of a college should be considered in the light of their accessibility from the college campus.

Q. (2) What is the best type, design and nature of a general heating plant to heat the various buildings of a rather extended American campus? At present there seem to be endless uncertainty and debate as to the respective merits of low pressure steam, high pressure steam, hot water, etc.

A. It is difficult to answer this question specifically, for it is so broad. The physical limitations of different campuses lead to different solutions. It is a question which should be placed for study in the hands of a competent consulting mechanical engineer, whose professional training and experience fit him for the study of this problem.

The latitude in which the college is located has its bearing. The question of whether or no electric current for use by the college is generated at the power plant also has a

bearing. It is impossible without profound study of the individual problem to answer which method of heating will prove the most economical in any given case.

Q. (3) What has finally been settled on as the best heating plant for a single residence, as for example, a professor's home?

A. If the residence is so located on the campus that it can be supplied from the central heating plant this will be good. If it must be independently heated there are so many limiting circumstances that it is impossible to say what would be the best system of heating. That which is suitable in Montana would not be right in Florida, and again where natural gas is available neither of the above would answer.

Q. (4) Is it wise, under present and future circumstances for a growing university to concentrate its physical training in one immense gymnasium or to build a series of smaller ones to avoid overcrowding, machine work and lack of individual attention?

A. The question of the size of a gymnasium has not been definitely settled. Up to date a group of buildings devoted to athletic purposes appears to be the best solution. The economy of concentration under one roof is considerable but the tendency does not appear to be in the direction of the individual immense gymnasium hall.

No. 8

Q. The architectural problem which ——— College is likely to face in the near future is that of building the first unit of a science hall. We want to build a \$50,000 unit, but in such a way as to accommodate the natural sciences now, and yet permit of one or two \$50,000 additional units as the need increases. Any help in plan, etc., would be appreciated.

A. In order to construct a first unit in any building it is necessary that the whole building should be designed. In order that its location may be right in the eventual growth of the institution it is much to be desired that a

block plan of the college grounds be created so that by present foresight future unnecessary tearing down of buildings be eliminated and adequate space provided for future growth.

It is quite possible so to plan the building for the science hall that it may be added to as the necessity arises.

No. 9

Q. (1) Methods for restoring the exterior of our main building in the most permanent form without detracting from or changing the architectural features and without destroying the atmosphere of mellowness which goes with an old building. Structurally, the building is in excellent condition, but the exterior is weathered to a point where something must be done to it. The stone trimmings of the building are a limestone which has disintegrated badly and the brick is soft and in some spots has begun to crumble. This is not a problem that local architects or contractors can handle successfully without guidance. Their idea seems to be to take off the outside layer of brick and stone entirely and put on something more modern and substantial.

A. If the materials of which the building in question is constructed are in current use in the vicinity of the college, it is probable that the local architects and contractors can place before you instances where restoration has been done by them. If the materials are from a distance their unfamiliarity with them would be an explanation of your thought that they cannot successfully advise. The calling in of a consultant from a distance would then become advisable. It is not a question on which one may generalize. Your problem must be solved on its individual merits.

Q. (2) The best method of laying underground heating mains. This question includes the relative expense and merits of a tunnel and of various kinds of conduits.

A. The best method of laying an underground heating main can be determined only by a consideration of the individual problem; the location of the power house in relation to the other buildings on the campus; the length of

carry, and the type of heating that has been adopted. It is a problem that can properly be submitted to a competent consulting mechanical engineer for solution.

If a new power house is to be located it should be considered in relation to the eventual growth of the institution. If a study of this has not yet been made it is economically essential that this should be done, and a block plan controlling the location of future buildings and the development of the campus generally be created.

Q. (3) The facilities which should be included in a Library building and their most effective arrangement from the point of view of usefulness.

A. The requirements of a college library building vary so much with the size of the institution and its probable expansion that it is perhaps unwise to indicate required facilities. A study of such a building should be entrusted to a competent architect and taken up by the college authorities in collaboration with him—the location of the building having been determined by a block plan created in the manner suggested in answer to question (2) above.

Q. (4) Plans for a new gymnasium and athletic field.

A. The gymnasium and athletic field, as an essential part of college life, will be located on the block plan created as suggested in Number (2) above. Their size and facilities also are determined by the present size and contemplated future development of the institution. They can be intelligently planned to-day so as to answer present needs while providing for future growth.

Q. (5) Plans for a building for the Conservatory of Music which might possibly include accommodations for the dramatic work of the department of Public Speaking.

A. A conservatory of music presents special problems in the matter of sound insulation, but beyond this there is no problem in the preparation of plans for such a building that is of a special nature or should in any way hamper the study of the problem by a competent architect, with whom

the required accommodations for the conservatory proper would be considered in the light of the space allotted to the conservatory on the block plan of the institution and the amount of the appropriation available for the construction of the conservatory.

There seems to be a close relation between the purposes of the conservatory and dramatic work. A conservatory would certainly require one or more auditoria, and these would be suitable for instruction in public speaking.

No. 10

Q. (1) Expect to add two and perhaps three units to plant. These include a building for physics and chemistry, a men's gymnasium, and a central heating plant. Our most perplexing problem of all is group planning.

A. The group plan or block plan of your institution will prove to be a guide which will help you in the solution of the problem before you. It is absolutely essential that every growing institution should have such a plan. This study should be made by the college authorities with the architects if serviceable results are to be obtained.

Q. (2) Our next most puzzling problem is the building of a gymnasium which will also serve acceptably as an emergency auditorium.

A. While a great many gymnasiums have in the past been arranged to serve as an emergency auditorium it is a question whether they can be said to acceptably serve this purpose.

Your problem is one which will be solved by your study of your group plan which will lead you to a determination of the probable eventual growth of your institution, and, while you may conclude for the time being or for a few years to come to put up with the gymnasium as an emergency auditorium, it is probable that you will include in your group plan an auditorium and eventually build such a structure. The uses of an auditorium are so many in the modern college life, sepecially for the extra-curriculum

activities, that the use of the gymnasium for such purposes is found to conflict with the normal uses of the gymnasium.

No. 11

Q. The problem that we are specially facing is, as to the character, number of stories, arrangement of rooms, etc., for Women's Dormitory. We are in doubt as to the advisability of a fourth story for a Women's Dormitory unless elevator service shall be provided, and that of course adds considerably to the expense, and perhaps to the up-keep.

A. Generally speaking a four-story building for a college dormitory is not to be desired. On the other hand, the value of the ground may warrant so intensive a use. In any event no elevator service is required.

Rooms in dormitories are arranged singly or in suites of two, three, and rarely more small bedrooms with a common study. The best practice is to place toilet facilities on each floor. A popular arrangement is based on two suites of rooms on each landing of a stairs. This involves a multiplicity of stairs and cuts down corridors to a minimum. On the other hand, some recent dormitories have been built with fewer staircases and longer corridors.

In planning your buildings, fire exits should be given consideration.

The dormitory group at Wellesley, and those at Princeton and Harvard, may be taken as good modern examples.

No. 12

Q. We have recently finished an auditorium which seats about nine hundred and which has a very high ceiling. The architect proposes that we must use fans in connection with the heating. The heating engineer and our contractor insist that ordinary radiation will answer better.

A. It is difficult to answer a question of this nature in the face of the expert advice given you by your architect and engineers.

On general principles, positive ventilation of an auditorium is an absolute essential to its satisfactory use.

(Positive ventilation means the use of fans.) There seems hardly a possibility of dispute on this point. There can be no doubt that the room can be heated more economically without fans, but that it can be as well ventilated without them as with them would be most surprising.

No. 13

Q. (1) How many buildings should a college have when a central heating plant becomes an advantage?

(2) Should the museum have a separate building or may it be attached to the library or to a science building (I take for granted that a museum is necessary, and that a director of museum should be provided to serve the different classes, something as a librarian serves)?

(3) What housing is necessary for the subject of Art and Esthetics?

(4) May a library building have recitation rooms? May it have an auditorium to be used as a little theater or for small assemblies?

(5) Do you know of any open air or out-of-doors swimming pool in connection with colleges?

A. (1) This question can be satisfactorily answered only by a consulting mechanical engineer, and this only as it applies to your buildings, for manifestly the determining factor is not only the number of buildings but their cubical content, that is their size and consequently the amount of heat required.

(2) So far as our information goes, there is no well-established practice as to the college museum. Manifestly, such a building is an addition to any institution of learning, but its particular organization must depend upon the opportunity for securing collections and the nature of these. If it is an art museum it should be affiliated with a department of the fine arts, but there can be no administrative objection that we can see to its being connected with the library. Unless it is purely a museum containing scientific objects it would seem to be undesirable that it should be connected with the science building.

(3) The Fine Arts Department of Harvard has a building of its own, Robinson Hall, in which are located drafting, lecture and reception rooms, as well as museum space. The size of the art department will guide you in determining the nature of the housing you require, but a room suitable for drawing from the cast or life is an essential.

(4) The answer to these questions is largely one of personal preference and the facilities offered by other buildings of the college. There is no inherent objection that we can think of to the placing of some classrooms in the library building, unless it be that you will so wish to plan your library building as to provide for its future growth and that such rooms would hamper these requirements.

The same may be said of an auditorium for use as a little theater. It may be pointed out that it is the principle of the City of Philadelphia in its branch Free Libraries invariably to provide for a lecture hall.

(5) We know of no open-air swimming pool in any college. On the other hand St. Paul's School, Concord, N. H., has a pond in close proximity to some of the school buildings which is used by the boys for this purpose; and we can see no objection to an open-air swimming pool other than the duplication of this service—an in-door swimming pool suitable for use all the year round being generally very much desired and being susceptible of being so arranged as to be available for use all the year round.

No. 14

Q. ——— College will want to build, in the near future, an auditorium to hold some 1,200, which will be harmonious with its original administration building, a purely colonial type. Any suggestions as to plans for such a building we should heartily welcome.

A. The problem is not an unusual one and presents no difficulties. Yale and Harvard both have excellent buildings of this kind. Refer to your architect.

No. 15

Q. In re a new building which will serve three purposes. First, it will be an auditorium, second, it will serve as a gymnasium and in the third place it will be a banquet room. I have drawn a rough sketch of the floor plan of the building that I have in mind. I am sending this rough draft which shows the platform, the two adjoining dressing rooms, the two entrances to the main floor and then one room which will serve as an office for the physical director and another room which will be a kitchen to be used on banquet occasions. Just opposite the platform I have drawn a tier of cement seats which will overlook the auditorium and basketball floor.

There should be room for 400 or 500 people on these seats. Underneath I have in mind a place for shower baths and lockers, one side for girls and the other side for boys, having a partition to separate this space into two large rooms.

I believe that such a building can be constructed from brick at a cost of from \$30,000 to \$40,000. I would be very glad for suggestions as to this building. It seems to me that it is possible to make such a structure serve these three purposes and I see no reason why the cost should be greater than what I have indicated. The only excavation that I have in mind is under the kitchen, where there should be a steam furnace and a place for coal.

A. Replying to your inquiry concerning building to serve three purposes, we return herewith your rough plan which seems to us to present certain advantages.

Your seating requirements are very considerable and will entail proportionately considerably more space than you have indicated on your sketch. We believe that you can hardly hope to build so large a building for the appropriation that you mention; in fact it appears to us that in order to get satisfactory results you will require certainly not less than \$60,000.

The kitchen and platform provisions seem to us to be somewhat small.

As a general criticism of your suggestion, let us say that, while a building that is suitably finished for use as an auditorium or a banquet room is quite possible, we hardly be-

lieve that one that is suitable for use as a gymnasium will answer your other two purposes.

No. 16

Q. About two years ago we acquired a site of about 40 acres to which we propose to remove the College of Liberal Arts of the University and to add to it an Engineering School. The site contains a number of old buildings, some of which we shall wreck and others of which we have remodeled for temporary use until we can get something better. The group of local architects . . . are now studying our architectural and ground plans. I do not know just how to get the benefit of the experience of your office on this problem but I should very much like to do so. Possibly it might be accomplished by asking you to look over our plans when they are a little further along and make us suggestions. In the meantime if you have any general suggestions such as the relative advantages of large buildings against small, or closely connected groups of buildings instead of more widely separated buildings, having in view the matter of convenience and expense of operation, I shall appreciate these suggestions.

A. Your general outline of your method of procedure in studying the proposed removal of the University to the new site appeals to us as being entirely sound.

In grouping your buildings we believe that you will do well to give special consideration to the question of orientation, considering the relative advantages of the several exposures for the different types of buildings and their use.

Private institutions have in many instances believed that, in view of the fact that they did not come directly under the requirements of the state laws in the matter of ventilation and lighting of classrooms, they could depart from these requirements where it seemed to them advantageous so to do for any reason. It is our belief that these requirements have generally been laid down for the benefit of students and we therefore believe that a careful observance of them is generally to the advantage of the building.

Another general consideration concerning the grouping of your buildings that it might be well to bear in mind is

that reasons of economy have frequently suggested the making of buildings four or more stories high. Such an intensive use of the land is warranted perhaps where the land is very valuable, but generally speaking lower buildings result in more satisfactory groupings and permit of smaller courtyards.

In the design of the Herkness Memorial Dormitories at Yale, the architect, Mr. James Gamble Rogers, has thoughtfully considered these matters.

Q. I want to thank you for your letter enclosing the comment of your Commission of College Architecture on the statement of our general plan. I am sure it will be helpful in working out our final plan.

I enclose you a picture of the plan that has been adopted by the Trustees of the University to control future development of our property. Some features of this plan are in a measure controlled by the necessity of incorporation in its buildings now on the property. This plan is subject to some modification as to the depth of the main courtyard leading back to the main building (the domed building in the background). This may be shortened by bringing the main building nearer to street on which its fronts.

I shall be very glad to have the further comments of your commission on this plan.

A. The Trustees are to be congratulated upon the adoption of a plan to control future growth. The large courts will afford extended vistas of great beauty.

On this plan future expansion can easily be taken care of in orderly fashion.

No. 17

Q. We are most interested right now in the architectural lines, equipment and accommodations of a college gymnasium. Can you give us some suggestions? Do you find it possible to combine all the desired gymnasium appointments with other features of college classrooms in one building, under one roof?

A. It is quite possible to combine all the requirements of a college under one roof, and, providing that these re-

quirements are not too considerable, it can be done with advantage.

We would point out to you, if we understand your question aright, that many of the modern school buildings put up by the boards of education in practically all sections of the country do just this thing. The Penn Charter School in Philadelphia has just now completed a considerable school structure built in the form of an "L" which does house all the school activities.

The college gymnasium is a problem that does not present any considerable difficulties. You should, we believe, consider your problem with a competent architect and discuss with him the accommodations which you require and their relative importance, and size. Beside the gymnasium proper, with its necessary locker and shower rooms, a swimming pool is frequently found to be desirable. Squash courts are often built; hand-ball courts may be either indoors or out; space for rowing-machines, rooms for fencing, boxing and wrestling, and proper accommodations for the athletic director are generally incorporated.

No. 18

Q. I am interested just now in a chapel building. Can you give me information as to where I can secure pictures of the various college chapels?

A. In the following colleges are good examples of the college chapel:

University of Chicago

Columbia University (New York City)

U. S. Military Academy at West Point.

There are also interesting chapels at the following schools:

St. Paul's School, Concord, N. H.

St. George's School, Newport, R. I.

Groton, Groton, Mass.

Pomfret, Pomfret, Mass.

P. E. Divinity School, (42nd and Locust Streets, Philadelphia, Pa.)

We believe that correspondence with these institutions would readily secure cuts of the buildings.

The problem of the college chapel in itself presents no inherent difficulties, and we believe that you would be best advised to consult with men who are noted for their competence in ecclesiastical work. Some of the best known of these are:

Cram & Ferguson, 248 Boylston St., Boston.

Associates of Bertram Goodhue, 2 W. 47th Street, New York City.

Day & Klauder, Franklin Bank Bldg., Philadelphia.

M. B. Medary, Jr., 112 So. 16th Street, Philadelphia.

No. 19

Q. One of our problems of architecture which we now face is the erection of a library according to a plan which will allow of enlargement without destroying the symmetry and arrangement of the building.

A. Your problem in so planning your library that it may be susceptible of enlargement should not present any insurmountable difficulties to the designer.

We are not clear whether or no you are now designing such a building, but we believe that when you determine to proceed your desire to build only a part of the projected building at that time will present no difficulty to the architect whom you will employ to draw the plans.

Such a stipulation for the plans of university buildings is in no way out of the ordinary, and a competent practitioner will gladly consider your problem with you in the light of your wish so to plan and construct your library.

No. 20

Q. The problems which confront us concerning the new gymnasium are these—whether the gymnasium should include, as was at first thought best, an infield baseball diamond, or whether we should omit this at any rate for the

present and construct a building of the more orthodox gymnasium type—in other words, including beside the gymnasium floor, basketball floors, squash courts, a swimming tank, and an equipment of offices, showers, and lockers.

As to location, if the building is to be exclusively of what is called the "orthodox gymnasium type," it would seem advisable to place it as near the center of things as possible even though that location be remote from the playing field. If the infield baseball cage is to be included—perhaps so included as to make it convertible into a hockey rink in winter a location near the playing fields is thought by some to be more appropriate.

A. You apparently contemplate a very comprehensive gymnasium or athletic building, and all your requirements, while quite sound, indicate that you intend to do the thing very well.

We believe that you should give particular attention to the swimming-pool. These pools are frequently so placed that they are ill-lit. In the light of the growing popularity of swimming as a sport, good ventilation of the swimming-pool room proper is very essential, as well as a most careful consideration of the treatment of the water, with all possible precautions against contamination and spreading of disease by infection.

The need for an "infield baseball cage," which we understand to be an indoor baseball practice space, is established in institutions in your region where considerable emphasis is placed on baseball. The possibility of converting such a cage into a hockey rink, if you mean ice hockey, seems to us to be remote and in any event to be a very costly possibility. The maintenance of an in-door ice hockey rink in itself involves a very considerable overhead. The taking out of the necessary apparatus, the storing and resetting of same would be, we believe, almost prohibitive. This is a question, however, that you would do well to refer to your consulting mechanical engineer.

In general, it seems to us that there is a material economy in locating your athletic group or gymnasium near the

playing field, as it does away with every possibility of duplicating locker and shower room facilities, and by their convenience to the playing field encourages students to use these facilities freely.

No. 21

Q. I think I know where we can get a gift of the amount necessary to construct a hall of fine arts here, within the next year or two. It would help me if I could have illustrations of beautiful fine arts buildings that are now in use. Can you tell me where I can get information about the most attractive buildings of this type?

Our thought is to have in the building an art gallery, and the studios for music, and pictorial arts. Our present music hall would be used for the practise work in music.

I have a friend interested in giving us this building. He is thinking of the figures, \$75,000. I am enclosing a picture of our Science Hall which we dedicated last June. Do you think that it would be possible for us to secure a Hall of Fine Arts that would harmonize with the architecture of the Science Hall? I understand that there is logic in having Grecian architecture for the Fine Arts building, but I personally am very favorably inclined to the English type in college architecture.

A. Very fine and representative college fine arts buildings are those at Harvard University, at Vassar College, at Wellesley, etc. The Harvard buildings are fully illustrated in the "Architectural Record" of October, 1909; the Vassar art building (Taylor Hall) is illustrated in "Architecture" of September, 1915, and, in "Art & Archeology," September, 1915, also appears an article on this building; "The Architecture Record" of May, 1912, deals with Wellesley. You might be further interested in the illustrations of the Princeton School of Architecture in "Architecture" for November, 1923; in the Art College of Oberlin College, Oberlin, Ohio (see "American Architect," October 6, 1915); and in the building erected for the New York School of Applied Design for Women, illustrated in the "Brickbuilder," Vol. 18, No. 4.

Some of these are of course considerably more pretentious than others, and probably all will be of value to you only as partial suggestions, as we understand you do not contemplate a building of great size.

Rather than sacrifice the future of the art work at your college by giving it either cramped or inappropriate setting, might it not be better to proceed gradually, erecting a portion of the building which could be used temporarily and completing it as funds were available?

As to the type of the building, it seems to us that style harmony of your college group is a consideration paramount to a preference for one style or another in any of that group's elements.

No. 23

A. (1) In building a science building is it best to provide for the three departments of biology, physics and chemistry in the same building, or should chemistry be placed in a separate building?

(2) Is it better to have one large dining room or commons for a college, or several smaller rooms?

(3) In a co-educational college should the young men and the young women take their meals together or separately?

(4) In building dormitories is it satisfactory to have one large lavatory or wash-room on each floor for all the students on the floor, or should private accommodations be provided for each room?

A. (1) The wisdom of including the department of chemistry with the other science branches in one building is a question which perhaps only the experience of the school can solve. If, in a college of some 250 students, it seems unnecessary to have two separate buildings devoted to this department, your architect in studying the problem may be able to so design the building as to segregate in one wing any given branch of the work.

(2) and (3) Into the social side of these questions we cannot enter. The disadvantages of the very great dining

hall or commons are apparent at Harvard and Yale. Princeton has recently built three small dining halls about one kitchen. Elsewhere the cafeteria has been adopted.

(4) The present generally accepted practice is to place toilet facilities on each floor to serve all bed-rooms on the floor. (For dormitories, the groups at Wellesley, Harvard and Princeton may be taken as good examples.)

No. 23

Q. We have adopted a Quadrangle organization for our new campus. The Academic Campus is composed of nine quadrangles. The gymnasium and athletic field constitute the tenth. We have at the center an open quadrangle around which we group the other eight. On the four sides of this inner quadrangle we have begun our grouping of buildings. The one to the east to be composed of Administration and Classroom buildings with two Science buildings on either side of this quadrangle extending eastward at right angles from the main building.

The quadrangle to the north of the center quadrangle we have designated as the Fine Arts quadrangle containing three buildings having the same relative location to each other as the one facing east. We have designated these buildings as follows: The Library building facing the inner quadrangle; two Fine Arts buildings, one accommodating Music and the other, other Fine Arts.

The quadrangle lying to the west of the center quadrangle to be designated as the Liberal Arts quadrangle. In this quadrangle we will locate the Classroom and Auditorium Hall flanked by a building at the right which we designate the Education and Psychology building, to the left, the History and Economics building. The quadrangles lying to the north and to the south of this building are left open for the erection of academic buildings in the future. This makes the west tier of quadrangles on the campus Liberal Arts.

The quadrangle on the south side of the inner quadrangle we designate as the Religious Education quadrangle. Our thought is to place the Chapel facing the inner quadrangle. The two buildings flanking this Chapel to be; the one on the right, Philosophy, the one on the left, Religious Education.

We would leave the two corner quadrangles to the north and south of Administration and Science quadrangle mentioned after the center quadrangle for the erection of men and women's dormitories respectively.

The question which I would like to get light upon is the proper grouping of buildings. We will be glad to get anything through your office as a clearing house on this subject. This campus is laid out with the thought that they are to provide for the development of the College during the decades following.

4. The grouping as you describe it and as shown on the block plan of the college grounds seems to be well thought out, so far as we can see. It is difficult to judge of details from so small a cut as that before us, but from it we cannot make out that any emphasis is placed on any one approach or entrance as the principal way into your grounds. Such emphasis may not be desirable, for special reasons in this case.

In general, we might offer the following precautions: (See reply to No. 16.)

No. 24

Q. The following subjects are of special interest to me because I am about to begin the construction of a dormitory and a kitchen and dining room:

1. A study of the arrangement in detail of kitchens for college dining halls, showing arrangement and relationship of the auxiliary and service rooms in connection with both kitchen and dining hall, to provide for from three to six hundred persons in dining room.

2. A study of advantages and disadvantages of large single dining room, several adjacent dining rooms, or several separated dining rooms. Maximum size of dining room desirable as single unit.

3. The practicability and type of chutes from upper stories of dormitories to basement for disposal of waste.

4. Minimum size of bedroom found healthful and pleasant for single person and for two persons.

These are very minor details but when one has to make a decision about them it would be very interesting and helpful to have available in some form the experience and opinions of a large number of other institutions in regard to them.

I particularly desire to present in the most convincing way possible the appropriateness of gifts to the state university as "memorials."

I only want you to ask your secretary to send me anything you have written, or to send me references to any journals or periodicals in which any aspect of the subjects referred to above has been discussed.

A. (1) Your architect, when you appoint him to study your dining hall, will turn at once for information concerning service and auxiliary requirements of such a hall to experts in this line. The furnishing of a kitchen suitable to perform this service efficiently is a delicate problem which only those who are continually in touch with such work can hope to answer intelligently. If you yourself care to advise with such people, we can recommend:

L. Barth & Son, 32 Cooper Sq., New York City.

Duparquet, Huot & Moneuse, 110 W. 22nd St., New York City.

W. F. Dougherty & Sons, Inc., 1009 Arch St., Philadelphia.

By such consultation you will doubtless gain much valuable information directly.

(2) We believe that in considering the equipment of your dining hall either through your architect or with the above named concerns you will gain such familiarity with the subject that you will arrive at your own conclusions concerning the desirable size of a single dining room unit. The question of economical operation is very difficult to discuss on a theoretical basis. At Princeton three dining-halls have been grouped about one kitchen, while at Yale and Harvard one large common room has been in use for many years. Both systems are found to have their disadvantages. We believe that no iron-clad rule has been made. Some good illustrations of dining rooms are as follows:

Phillips-Exeter Acad., Exeter, N. H., in the "Brick-builder," Nov., 1903.

Princeton Dining-Halls, "Architecture," February, 1918, and the "American Architect," February 20, 1918.

Harvard Freshmen Dorms dining (Gore Hall) , "Brick-builder," Vol. 23, No. 11.

(3) We are aware that such chutes are sometimes installed but have no knowledge of their desirability in dormitories nor of the type generally in use. Should you make a decision favorable to such chute we should be glad to be advised by you of the type that you have adopted.

(4) A bed-room en suite with a study can be as small as $7\frac{1}{2}$ feet by 11 feet plus ample closet space, and of course two such rooms may be en suite with a study. A single study-bed-room should not be less than 10 feet by 15 feet, and preferably 12 x 15. Study-bed-rooms for use by two persons are not usual, to the best of our information.

We regret that we have been unable up to this time to locate any information for you relative to memorials in colleges. Should our correspondence develop something of value in the near future it will be forwarded to you. In the meantime, let us say that in our opinion the question of the memorial in colleges is no different from the memorial in the community. The prejudices and individual tastes of the donors must be considered. We believe there is no fundamental wrong in erecting a memorial that is useful. On the other hand we know that many have preferred a decorative monument to a building that serves a purpose. It appears to us to be a subject for inconclusive discussion.

No. 25

Q. Replying to your suggestion as to what subjects related to architecture we are interested in at the present time, I might say that I have just made a trip in the East studying library architecture. We should be happy to have plans and suggestions for a library, the first unit of which would cost between \$150,000 and \$200,000.

Acting upon my suggestion, the Board of Regents have secured the services of Arthur A. Shurtleff, the well-known landscape architect of Boston, Massachusetts, who has just spent three days with us and has been employed to complete a comprehensive plan for the future development of our College.

A. We believe that your best method of procedure will be to correspond with the librarians of the college libraries that seemed to you, during your tour of inspection, to contain features that appealed to you as meeting your requirements in whole or in part. You can doubtless thus secure plans that will help you to make decisions as to what is desirable. We regret to say that we have as yet no file of typical plans on which to draw for the benefit of our members.

It seems to us that you would do well to appoint a competent architect and proceed with him to study of your library problem, very much as you are already studying your plan with Mr. Shurtleff.

No. 26

Q. We have had a great amount of labor in getting together data on the various problems which I have mentioned: such questions as how many women can best be handled in one dormitory and with how many floors for the most economical building and house arrangements? How many men should be in one section and should the dormitories be built in sections of houses or should they be built so as to permit of greater congregating of the students? What size should the recitation rooms be, how much light should they have, and in what proportions should they be built? What should be the height of the ceilings in the laboratories and how wide can a laboratory be built to be efficient in the way of lighting? How much lower should the ceilings of the laboratories for biology be at the rear in order to throw the light down properly on the work? How much more would the erection of tunnels for heat, light, water, telephones et cerera cost than the installation of these things in old conduits and would the extra cost of the construction of tunnels be more economical in the end because of their economy of operation? How much heat would be lost in the use of tunnels as over the loss of heat by conduits, if any? How far can heat be economically carried in pipes? Can these tunnels be made practical for the use of students in bad weather as walk-ways?

A. Your queries are most natural. They are of such a nature as to require full information concerning all the

advantages and limitations of your project and your site before really serviceable answers can be given.

A proper procedure would be to retain a competent architect as consultant, employing him literally in this capacity to discuss with you all the phases of your problem, the proper method to approach and study same in its most general aspects. This man might or might not be retained by you for the design of future development, depending on your conclusions as to his competence, based upon your contracts with him.

Answers can be made to your queries (1) concerning dormitories, only after considering your needs, the funds available, the requirements of your students, etc.; (2) concerning school rooms—these will be affected by the state laws bearing upon school-house construction; (3) on mechanical equipment, heat, etc., probably involve a complete study of requirements in present and future buildings and will be affected by their relation to one another.

No. 27

Q. The problem that especially confronts us is the problem of finance. The President has been authorized to secure a building and landscape architect's advice in the matter of our building plans for the future. However, I shall be very happy to avail myself of any information which the Association of American Colleges may assemble bearing on our problem.

A. In having determined to employ a competent architect to study your development problem, you have already done just what the Association recommends. Each problem must be solved on its own merits; there can be no standardization—nor is it at all to be desired. Each college plan should have its own individuality, growing out of the character of its site and environment. Also, see answer to question Number 16.

No. 28

Q. A donor wants to put a building of *different architecture*. Please send me literature on the subject. Board meets October 14.

A. From the information before us it is impossible to say just what further building your institution may require. It does not appear whether or no you have a suitable gymnasium, and in view of the fact that you appear to have both residential and classroom facilities, a gymnasium suggests itself as desirable. On the other hand, as you do not appear to have a chapel, such a building would seem to us to be a form of gift that would be most appealing to your prospective donor.

As to the style of architecture to be adopted for your new building, we advise that the same be in keeping rather than in contrast with your existing buildings. These are of brick and stone. This combination in itself constitutes a dominating note which may be without too great a lack of harmony, interpreted in any style of architecture which lends itself to their use.

If you can inform us more definitely what building or type of building you decide upon, we will be glad to assist you by sending you literature, if possible.

Q. The next building that we need and which we already have the money for is a library, but they want to change the type of architecture mainly. I think, to gratify the architect who wants his building to stand out distinct from all the rest.

Your consulting architect suggests that we get a competent architect, etc. We selected one who has a fine reputation. He has been out to see us several times and looked over the grounds, found our needs, etc., but seems to be impressed with the idea that he must put up a building of a different type and material from those we already have.

I applied to your association and its department of architecture, because I wanted to break up the plan of putting in another type of architecture when we already have six buildings that are of the early Tudor type.

A. Thank you for the quotation from No. 28. I have read my reply dated October 9 and feel that there is nothing to add to it unless it be perhaps to emphasize the fourth paragraph. The change in material would be even more undesirable than the change in style.

It seems to me that with the new buildings in these materials, brick and stone, and of the Tudor style, the President is quite right in being unwilling to destroy the harmony of the group by the introduction of a building that will change this.

Q. I thank you very much for your architectural authority which confirms my own for what was previously done for the Association of American Colleges. I shall use this suggestion to the best advantage.

No. 29

Q. The college proposes to erect within the next one or two years, two new buildings, one a chapel and the other a hall of administration, each one to cost approximately \$250,000. The chapel we would desire to be of stone, of Gothic architecture. The administration building to fit in with the other buildings would have something of the mansard type of roof and be of brick trimmed with stone. We are hoping to be able to connect with cloisters the various buildings in a program looking ahead so that students can walk from one building to another during the period of rain or storm.

You will notice by the enclosed plan that the quadrangle on the four blocks has yet two sides of one block unfilled. These are the main and commanding positions on the campus and would be adapted to these buildings which should have the greatest dignity and beauty of any of the group.

Any suggestions you could give us between now and January or at the meeting of the Association of American Colleges in January, we shall be glad to receive.

A. It appears to us with a block plan such as yours which doubtless provides for your needs satisfactorily, you are up to the point of considering your immediate building needs in detail.

The study of these should be begun with a competent architect by discussing fully and frankly with him the diffi-

culties of your problem as it presents itself to you, considering with him your detailed needs and the way similar requirements have been housed at other institutions.

We entirely agree with you in your estimate of the commanding nature of the sites selected. The appropriation for the chapel will be adequate or the reverse, depending upon the number of sittings you require.

No. 30

Q. At the present time, this college is much interested in dormitories, swimming pool, and a student union, so that any information that could be cleared through your Association on subjects pertaining to these projects, architecture as well as management thereof, would be quite valuable to the staff of this college:

The architectural plan of the institution and its buildings is best shown by the pictures contained in the pamphlets herewith.

Dormitory: This should harmonize with the gymnasium, which is constructed of pale red brick trimmed with gray granite. The dormitory should be sufficiently large to house 125 students. Its lower floor should be utilized for a cafeteria and rest rooms. This fits in with the grade of the site. The main entrance for students should be toward the tennis courts while the service entrance and cafeteria entrance will be on the floor below. Estimates of contractors point to the fact that we should obtain a fine looking building of this type for \$230,000.

Swimming Pool: It is desired to locate a pool in a small plain building just to the west of the gymnasium and of this same red (pale) brick trimmed with gray stone. The pool itself should be about 75 x 30, and should have showers and filtration plant convenient together with a gallery and seats from which athletic contests could be watched. The roof should have many skylights in order to give as much natural light as possible to the pool. It is thought that such a pool would cost not over \$75,000.

Mechanical Engineering Building: This should be of good red brick trimmed with green iron and conform in general appearance to our Electrical Engineering Laboratory. Its cost with equipment, including the cost of moving apparatus from present Mechanical Engineering Building, would be about \$370,000.

Student Union: This is desired for the accommodation of about 850 students and the type of building would be similar to that of the gymnasium. No estimates have been made as to the cost of this, and so I am not able to advise you further in this.

At the present time we are not able to start these buildings and we are not in a position to reimburse you for any work that you may do in connection with this project.

A. A consideration of the block plan indicates that the older buildings have been placed too close together and that this draw-back has been realized and that in future it is proposed to so set the new buildings as to give more light and air about them. It is possible that the plan goes too far in this direction.

If estimates have been made to show that 125 students can be housed along with a cafeteria, for \$230,000, there can be no question on that score. With the costs of other similar buildings before us, the estimate seems low to us.

To house the cafeteria in a dormitory is doubtless economical. Is it good practice? It appears to us that food is much more properly a part of the Students' Union, which building we understand as a students' club (v. University of Michigan).

For the Swimming Pool Building we should prefer that it be so planned that sunlight be admitted from windows. Skylights, we think, should be avoided whenever possible, because of high cost of maintenance and operation. The pool size is right and the price not far wrong.

Having seen only extracts from your publications and letters, we may have drawn a wrong conclusion in thinking that the design and construction of these buildings has not as yet been placed in an architect's hands. This should be done at once in the hope of avoiding the errors that have been made in the general appearance of the older buildings, for artistic merit in college buildings, i.e., their beauty, has an influence on the student body in unconsciously developing a love for the beautiful and in stimulating their loyalty to their college.

ACADEMIC CREDITS IN BIBLE STUDY AND RELIGIOUS EDUCATION

ROBERT L. KELLY

At the last meeting of the Association of American Colleges a resolution was passed directing the President to appoint a committee to investigate the policy and practice of institutions of higher learning in the matter of credit in Bible and Religious Education for admission and for advanced standing, in case of transfer from other colleges. The resolution appeared in this form:

Voted—That the President of the Association of American Colleges appoint a committee to secure information on the attitude of the colleges and universities throughout the country toward high school and college courses in religion, on the credit they allow for high school courses toward admission, and for college courses toward classification.

President Aydelotte appointed R. L. Kelly, Chairman, and the following members of the Association on this committee: President Arlo A. Brown, University of Chattanooga, Dean Joseph Reimer, Loyola University, President E. E. Rall, North-Western College, and President Ellen F. Pendleton, Wellesley College.

A letter of inquiry was sent by the committee to each member of the Association of American Colleges, the Association of American Universities and the National Association of State Universities, which met with a surprising response. Replies were received from every member of the university associations (except the University of Porto Rico) and from 285 members of the Association of American Colleges.

From these replies your Committee begs to submit the following report.

Preliminary Statement: It must be understood, of course, that most of the affirmative replies to the questions asked are of a hypothetical nature. They do not pretend to represent actual conditions so much as *policy*. No college, presumably, would accept work from another institution, either of secondary or college grade, unless that work measured up to definitely announced standards. That a college announces a policy, does not carry with it the promise indiscriminately to accept work which may be offered in apparent conformity with that policy. Every worthy college reserves the right to scrutinize every individual case.

In the case of both secondary and college credits, it is not uncommon to say that work in Bible is accepted but counted as *English*, or more rarely, as *History*. The study of the Bible as an incidental part of set readings in English literature, is not interpreted as a "course" in Bible or religious education as the term is used in this report. To "accept toward admission" as here used means to accept as part of the standard offering of fifteen units of secondary school work. It is not uncommon for a college to say, as one of them puts it: "We accept as much as one unit but do not advertise that we will accept any." Colleges have a somewhat prevalent conception that work in this field in secondary schools is not substantial. When assured that it is, they accept it.

A Catholic institution rejecting admission credits of this kind says:

"It has not been and is not at present our practice to accept towards admission credits obtained in secondary schools in Bible study or religious education. We follow this practice because it is the general practice of colleges throughout the country. We should, however, be ready to acknowledge such work toward college entrance credit, provided it is organized on a basis similar to that of other subjects, and provided there is general willingness on the part of the colleges to accept it."

This institution labors under a complete misconception of the situation as it is revealed by the present study.

In the acceptance of transfer of college credits, it is sometimes specified that the work offered must have been taken above the freshman year, or at some other designated time. A considerable number of institutions limit the amount of credit they will accept to the equivalent of their own offerings, and occasionally one states that an examination would be required. It is clear that the majority of colleges accept these credits without challenge as a matter of professional courtesy.

The technical schools usually seem as cordial to such work as others and it may be assumed, perhaps, that those that cannot accept these courses are not hostile, for one of them reports "No theoretical objection but our course is for the most part prescribed and of necessity all technical."

The report that follows speaks for itself. That there is growing interest in the subject with which it deals is evidenced by many comments. A New England college reporting in the negative on all counts, says:

"We would not have this reply construed as indicating an attitude of indifference to the subject of religion."

And the President goes on to report the recent appointment of a college pastor "who will assist the faculty in conducting college chapel and teach courses in the Life of Christ and Teachings of Jesus—this in addition to the courses now offered in philosophy, religion and English."

Typical statements are these—from well known, established institutions, the first in a metropolitan center, the second in a conservative rural Eastern section. The reference in the first is to Question I.

"Our university is heartily in favor of the movement to emphasize religious education in the schools and I am sure will be found in favor of giving full credit to such study when it shall have become so sys-

tematized and standardized that it represents substantially equal intellectual effort and training with the courses now recognized for admission."

The reference here is to Question IV:

"The maximum number of semester hours in Bible study or religious education accepted from candidates for transfer varies somewhat according to the work in those fields which our curriculum contains. Just now it is three semester hours; we hope presently to have it twenty-one or eighteen."

SUMMARY

I. Of the 327 colleges and universities reporting 257 announce the policy of accepting credits obtained in secondary schools in Bible study or religious education; fifty decline to accept such credits, and with fifteen the policy is undetermined. Five accept only above fifteen units in other subjects.

II. Two hundred and eleven institutions replied indicating they would accept credits from accredited high schools without challenge, or maintained a policy of *accepting on a fractional basis* secondary school courses conducted twice a week for one or more years; ten reject such offerings and seventy-four fail to make a clear statement of their attitude.

III. Three hundred and four colleges and universities accept or are willing to accept from accredited colleges transfer credits in religion toward fulfilling requirements for the baccalaureate degree, and fifteen do not accept such credits.

IV. The maximum number of hours accepted on transfer by 117 colleges and universities is practically unlimited or at least undetermined. With the others accepting such credits, the specified amounts range from three to forty semester hours.

This report presents a remarkable challenge to secondary schools and to college teachers of religion. Most of the colleges and universities stand ready to accept work in religion when carried on in terms of academic respectability.

PART I

REPORT ON ACADEMIC CREDIT FOR RELIGIOUS INSTRUCTION IN THE ASSOCIATION OF AMERICAN COLLEGES

Association membership (1925).....	289
Members making no response	4*
Members reporting	285

A. PREPARATORY WORK

Question I.

Is it consistent with your policy to accept toward admission credits obtained in accredited secondary schools in Bible study or religious education?

1. *Do not accept*—38 (arranged alphabetically by states.)

Howard, Wesleyan, Rollins, DePaul, Rose Polytechnic, Cornell (Ia.), Mt. St. Joseph, Kentucky, Goucher, Amherst, Wheaton (Mass.), Williams, Lindenwood, Creighton, Princeton, Adelphi, Buffalo, Colgate, Hobart, St. Stephen's, Vassar, Wells, Capital, Cincinnati, Lake Erie, Western Reserve, Albright, Allegheny, Bryn Mawr, Carnegie Institute, Lafayette, Lebanon Valley, Pennsylvania, Temple, Westminster, Wilson, Lincoln Memorial, Lawrence.

2. *Accept above required 15 units*—5.

St. Catherine, Jamestown, Our Lady of the Lake, Carroll, Marquette.

3. *Policy undetermined*—10

Lake Forest, Center, Worcester Polytechnic Institute, Mississippi, Georgian Court, Dickinson, Drexel, Franklin and Marshall, Winthrop, Rice Institute.

4. *Accept:*

There are 232 institutions indicating willingness to accept credits in Bible study and religious education, viz.:

* Monmouth College, Boston College, College of St. Teresa, College of St. Thomas.

- Alabama*—Birmingham Southern, Judson, Woman's C.
Arkansas—Arkansas, Hendrix.
California—Mills, Occidental, Pacific, Pomona, Redlands, Southern California, Stanford, Whittier.
Colorado—Colorado College, Denver.
Connecticut—College for Women.
Delaware—Delaware U.
District of Columbia—George Washington, Howard.
Florida—John B. Stetson U.
Georgia—Emory U., Piedmont, Shorter, Wesleyan.
Idaho—Idaho, Gooding.
Illinois—Augustana, Aurora, Bradley Polytechnic, Carthage, Chicago U., Eureka, Greenville, Illinois, Illinois Wesleyan, Illinois Woman's, James Millikin, Knox, Lincoln, Lombard, Loyola U., McKendree, Mt. Morris, Northwestern U., North-Western, Rockford, Rosary, St. Viator, Shurtleff, St. Xavier Woman's, Wheaton, Y. M. C. A.
Indiana—Butler, De Pauw U., Earlham, Evansville, Franklin, Hanover, Indiana Central, Indiana U., Manchester, Notre Dame U., St. Mary's of Notre Dame, Saint Mary-of-the-Woods, Taylor U.
Iowa—Buena Vista, Central, Coe, Columbia, Des Moines U., Drake U., Dubuque U., Grinnell, Wesleyan, Luther, Morningside, Mt. St. Joseph, Parsons, Penn, Simpson, Upper Iowa, Western Union.
Kansas—Baker U., Bethany, Emporia, Fairmount, Friends U., Wesleyan, Ottawa U., Southwestern, Sterling, Washburn.
Kentucky—Berea, Georgetown, Louisville U., Transylvania.
Maine—Bates, Bowdoin.
Maryland—Hood, Morgan, Western Maryland.
Massachusetts—Boston U., Clark, International Y. M. C. A., Mount Holyoke, Simmons, Smith, Tufts, Wellesley.
Michigan—Adrian, Albion, Alma, Hillsdale, Hope, Kalamazoo, Michigan U.
Minnesota—Carleton, Concordia, Hamline, Macalester, St. Olaf.
Missouri—Central Wesleyan, Drury, Missouri Valley, Missouri Wesleyan, Park, Tarkio, Westminster, William Woods.
Montana—Inter Mountain Union.
Nebraska—Cotner, Doane, Grand Island, Hastings, Midland, Wesleyan.
New Hampshire—Dartmouth.
New Jersey—Rutgers.
New York—Alfred U., Columbia U., Cornell U., Elmira, Hamilton, New Rochelle, New York U.,* Rochester U., St. Lawrence, Union.
* Washington Square College.

North Carolina—Davidson, Duke U., Elon, Guilford, Salem.

North Dakota—North Dakota U.

Ohio—Municipal U. of Akron, Antioch, Baldwin-Wallace, Bluffton, Defiance, Denison U., Hiram, Kenyon, Marietta, Miami U., Mount Union, Muskingum, Oberlin, Ohio Northern U., Ohio U., Wesleyan U., Otterbein U., Rio Grande, Toledo, Western C. for Women, Wilmington, Wittenberg, Wooster.

Oklahoma—Oklahoma City, Phillips U., Tulsa U.

Oregon—Linfield, Reed.

Pennsylvania—Geneva, Gettysburg, Haverford, Lehigh U., Muhlenberg, Pennsylvania C. for Women, Pittsburgh U., Thiel, Ursinus, Washington and Jefferson.

Rhode Island—Brown U., Providence.

South Carolina—Converse, Presbyterian C. of South Carolina.

South Dakota—Dakota Wesleyan U., Huron, Yankton.

Tennessee—Chattanooga U., Fisk, Maryville, South U., Southwestern P., Tusculum, Vanderbilt U.

Texas—Baylor U., Industrial Arts, Howard Payne, Southwestern U., Texas Christian U., Trinity U.

Utah—Utah U.

Vermont—Middlebury.

Virginia—Bridgewater, Lynchburg, Randolph-Macon Woman's, Roanoke, Sweet Briar, Richmond U., Washington and Lee U., William and Mary.

Washington—Puget Sound, Whitman.

West Virginia—Bethany, Davis and Elkins, Wesleyan.

Wisconsin—Beloit, Campion, Milton, Milwaukee-Downer, Ripon.

Question II.

How would you evaluate toward admission such courses in Bible study or religious education when conducted twice a week for one or more years?

There are included in the replies to this inquiry evaluations on a hypothetical basis from a few institutions that reported to Question I either in the negative or as being without policy. A few also that made an affirmative reply to Question I failed to answer. Including these the number of institutions covered in the report below is 271.

1. No answer (Institutions accepting credits)—7

Wheaton, Friends, Sterling, Mississippi U., Arury, Toledo, Geneva, Gettysburg.

2. Ambiguous or without policy—64

3. *Reject courses described* (usually on ground of being insufficient in quantity and of doubtful quality of instruction)—10

See also Question I, Item 2.

Mills, Pomona, Y. M. C. A. College (Ill.), Cornell, Dubuque, Grinnell, Hamilton, New York U., Duke U., Our Lady of the Lake.

4. *Evaluation indicated*—189.

(a) Recommendation of Accredited High Schools (20)

Redlands, Chicago, Illinois, Franklin, Indiana U., Lutheran, Parsons, Fairmount, Friends, Kansas Wesleyan, Berea, Western Maryland, Hillsdale, Michigan U., Oberlin, Miami, Western C. for Women, Baylor, C. of Industrial Arts, Whitman.

(b) When total offering aggregates one unit (28)

Shorter, Wesleyan (Ga.), Illinois Woman's, North-Western, Rosary, St. Mary-of-the-Woods, St. Xavier, Ottawa, Bates, Bowdoin, Clark U., Mt. Holyoke, Smith, Wellesley, Concordia, Missouri Valley, Dartmouth, Columbia U., Davidson, Guilford, Otterbein, Phillips, Pennsylvania C. for Women, Brown U., Presbyterian C. of South Carolina, Maryville, Southwestern, Our Lady of the Lake.

(c) Fractional credits (141)

There are 141 institutions whose replies indicated they would evaluate such a course as was suggested, on a fractional basis, ranging from $\frac{1}{2}$ (or $\frac{1}{2}$ unit for two years' work) to $\frac{3}{4}$ of a unit per year.

Question III.

Is it consistent with your policy to accept from accredited colleges transfer credits in Bible study or religious education toward fulfilling the requirements for a bachelor's degree in the college of liberal arts?

1. *No answer*—2

Wheaton (Ill.), Haverford.

2. *No policy*—5

Worcester Polytechnic Institute, Adelphi, Carnegie Institute, Drexel Institute, Rice Institute.

3. *Do not accept*—11

Rose Polytechnic Institute, St. Mary of the Woods, Mt. St. Joseph, Bowdoin, Williams, Hope, Georgian Court, Buffalo U., Lehigh, Utah U., Lawrence.

4. *Accept*—267.

Question IV.

What is the maximum number of semester hours that you will so accept?

The 267 institutions accepting transfer credits report on the maximum semester hours accepted as follows:

1. *Ambiguous*—6

Pomona, Indiana Central, McKendree, Elon, Baylor, William and Mary.

2. *No answer*—6

Redlands, Denver, Fairmount, Lindenwood, Bryn Mawr, Elon.

3. *No rule practically unlimited*)—107

The usual statement is to the effect that there is no fixed limit, that no ruling has been called for, or that the individual case would be subject to special action by the faculty in due course. Occasionally, to such a statement there is appended a figure as a suggested maximum.

4. *Amounts stated*—148

6 or less	28
7-15	53
16-25	40
26-40	22
41 and over	5

SPECIAL DATA ON ENTRANCE CREDITS VOLUNTEERED BY 66
ASSOCIATION COLLEGES

1.	Accept maximum of	$\frac{1}{2}$ unit of Bible	2
2.	"	" 1 " " "	46
3.	"	" $1\frac{1}{2}$ units " "	1
4.	"	" 2 " " "	10
5.	"	" 3 " " "	6
6.	"	" 5 " " "	1
			<hr/> 66

PART II

REPORT ON ACADEMIC CREDIT FOR RELIGIOUS INSTRUCTION
IN UNIVERSITIES HOLDING MEMBERSHIP IN
THE ASSOCIATION OF AMERICAN UNIVERSITIES
AND THE NATIONAL ASSOCIATION
OF STATE UNIVERSITIES

Membership of both Associations (1925) (no duplicates).....	64
Institutions making no response.....	1
Institutions included in A. A. C. Report (Part I).....	21
Institutions reporting below.....	42

A. PREPARATORY WORK

Question I.

Is it consistent with your policy to accept toward admission credits obtained in accredited secondary schools in Bible study or religious education?

1. *Do not accept*—12

Harvard, Illinois, Johns Hopkins, Missouri, Ohio State, Philippines, South Dakota, Texas, Vermont, Washington (forbidden by State Const.), Wisconsin, Wyoming.

2. *Policy Undetermined*—5

Florida, Maryland, Nevada, South Carolina, Washington Univ.

3. *Accept*—25

Alabama, Arizona, Arkansas, California, Catholic U., Colorado, Georgia, Hawaii, Idaho, Iowa, Kansas, Louisiana, Maine, Minnesota, Montana, Nebraska, New Hampshire, New Mexico, North Carolina, Oklahoma, Oregon, Tennessee, Virginia, West Virginia, Yale.

Question II.

How would you evaluate toward admission such courses in Bible study or religious education when conducted twice a week for one or more years?

The twenty-five universities signifying acceptance, report as to evaluation, as follows:

1. *Ambiguous*—3

Oklahoma, West Virginia, Yale.*

* Chairman of the Board of Admissions writes: "You are, of course, aware that certain portions of the Old Testament are always listed for reading in preparation for the examination in English."

2. *Accept recommendation from accredited High Schools*—3

California (no case); Kansas ("5 hours equivalent to $\frac{1}{2}$ unit."); Minnesota ("Beginning in the fall of 1926, however, we shall accept only those subjects which have been approved by the State Department of Education. I do not believe that Bible study is upon the approved list at the present time, and do not know whether or not the State Department expects to accredit it.")

3. *Accept on 1 unit minimum basis*—5

Alabama, Louisiana, Colorado, Iowa, North Carolina.

4. *On Fractional Basis*—14(a) Accept as $\frac{2}{3}$ of entrance unit—9

Arizona, Arkansas, Hawaii, Idaho, Montana, New Mexico, Oregon, Tennessee, Virginia.

(b) Accept as $\frac{1}{2}$ of entrance unit—5Catholic University (probably $\frac{1}{2}$. In Catholic High Schools it is customary to give relig. every day. Max. 2 but only $\frac{1}{2}$ in any one year.) Georgia, Maine, Nebraska, New Hampshire.

B. COLLEGE WORK

Question III.

Is it consistent with your policy to accept from accredited colleges transfer credits in Bible study or religious education toward fulfilling the requirements for a bachelor's degree in the college of liberal arts?

1. *Do not accept*—5

Harvard, Johns Hopkins, University of the Philippines, Washington, Washington (St. Louis).

2. *Accept*—37

See list below—Question IV.

Question IV.

What is the maximum number of semester hours that you will so accept?

The 37 institutions that accept transfer credits report a maximum allowance as follows:

*Maximum number of Semester Hours Accepted from Transfers**No answer*—(1)

Wisconsin—not accepted below junior year.

Three—(2)

Kansas—"if above freshman year."

Minnesota—"as blanket credit."

Four—(3)

Catholic University.

Colorado—Bibl. Lit. (2) and Bibl. Hist. (2).

New Mexico—Accepted as English.

Six—(6)

Alabama.

Oklahoma.

Tennessee—Perhaps more from a theol. inst.
Vermont—Bibl. Hist. and Lit.
Virginia—Bibl. Hist. and Lit.—“session hours.”
Wyoming—Rare—only Bibl. Hist.

Eight—(3)

Idaho.
South Dakota.
West Virginia—8-10.

Ten—(2)

Illinois.
Montana.

Twelve—(5)

Florida—possibly more.
Georgia—no less than six hour course accepted.
Ohio State.
South Carolina.
Texas—Bibl. History and Lit.

Fourteen—(1)

Missouri.

Sixteen—(1)

Nebraska—maximum—2 hours per sem.

Eighteen—(1)

Arkansas.

Thirty—(1)

Louisiana.

Forty—(1)

Oregon—Limited to specified subjects, *e.g.*, Hist. or Phil. of Religion.

No limit—(10)

Arizona.
California (never over 4-6 thus far).
Hawaii—10 suggested.
Iowa—Evaluate on 120 hour basis.
Maine—6 suggested.
Maryland.
New Hampshire—By faculty action.
Nevada—Bible courses offered for degree here.
North Carolina.
Yale.

COLLEGE PERSONNEL TECHNIQUE

DIRECTOR ADAM LEROY JONES,
Columbia University

The Committee on College Personnel Technique will report at the next meeting of the Association the results of a census of some three hundred colleges regarding their practice in the matter of special examinations for freshmen and freshmen placement.

As is well known the University of Iowa under the leadership of Dean Carl E. Seashore has done very interesting work in this field. Dr. Seashore in a recent address before the Association of American Universities discussed the Placement Examination as a means of discovering and motivating the future scholar early. He has been kind enough to place a copy of his report in the hands of the Commission. In this report he has analyzed the situation very clearly and he has offered some very interesting suggestions.

He points out first that the introduction of psychological measurements has revealed three features of individual differences with striking force. These are: (1) the magnitude; (2) the fixity, and (3) the intricacy in organization of varieties of individual differences.

"It is a general rule that the *magnitude* of individual differences varies with the specificness of the feature measured. For example, two students may seem to vary in college work as one to two in the general power of memory, but when we test them on a specific type of memory, such as memory for geometrical form, the difference may prove to be 5, 10, or 20 times as great; and the same person may have 5, 10, or 20 times as good memory for geometrical form as he has for tonal quality, or *vice versa*. The same principle applies to countless capacities in mathematics, natural science, philosophy or literature.

"Our best measures of such *fixity* are appearing in the realms of the psychophysics capacities, motor personal equations, and types of mental alertness. A boy who is quick

and accurate is likely to be the man who is quick and accurate in any particular type of motor process. As our measures of intelligence are gradually improved, we find more and more evidence that the intelligence quotient of 75, 100, or 125 tends to remain fairly fixed throughout life, with or without extensive education of the individual.

"Measurement, likewise, reveals intricacy upon intricacy in the order of mental organization."

As a result of his previous study of the gifted student Dean Seashore points out that one of the significant lessons "is that efforts designed to discover and motivate the prospective scholar must concentrate upon the earlier stages of his higher education—the period in which the natural impulses, the exceptional gifts, and the warmest enthusiasms for achievement crop out most naturally and can be most effectively guided."

He has also urged that the most significant message in the charge of psychology to education today is to "keep each student busy at his highest natural level of successful achievement in order that he may be happy, useful and good." He finds that as a result of studying the various attempts in this direction in colleges throughout the country that there are a number of very promising and effective projects of which, in his judgment, "the departmental placement examination is the most fundamental, the most tangible, and the one having the most far reaching results." He believes that "this examination is the natural sequence to the so-called intelligence tests at college entrance and is likely to replace the new current qualifying examination, or be absorbed in it."

He cites as the distinguishing characteristics of the placement examination the following:

"1. It is devoted to specific subjects or fields of knowledge, such as English, mathematics, or chemistry.

"2. It differentiates between training in a subject and natural aptitude or fitness for that field of work.

"3. It is a departmental affair and will be given separately by each department in its immediate interests and needs.

"4. It served as an introduction to the subject, being prepared with the purpose of reminding the student of the essential prerequisites for the course and indicating the general character of the activity that will be pursued in the course, and being so written from the point of view of the art of teaching that it shall constitute the most profitable exercise for the first two hours of the course.

"5. This examination should give, at the end of two hours, as adequate information about the student's place and needs in the course as the instructor ordinarily acquires by the end of the first semester under the traditional methods of instruction.

"6. The record of a general intelligence test may be used to supplement this examination, but that is not essential, as a series of placement tests will be more significant than a general intelligence test.

"7. It will be prepared by, or in responsible collaboration with, a successful teacher and writer in the specific subject.

"8. It will be given for a specific purpose, and the results will be applied immediately in the organization of sections of the class on the basis of this objective information about the character of the preparation and the natural aptitude for the subject."

He recommends that:

"In so far as is compatible with content of material, the examinations in all the subjects are built on the same general plan so that results will be comparable and easily interpreted for administrative purposes. The tests are all of the objective type and may be administered by any instructor and scored quickly and accurately from a key by any assistant so that results of the examination may be available the day after the examination, without any extra labor on the part of the staff. Indeed, the examination simplifies the work of the teacher for these two days."

He urges that:

"It is very desirable that different institutions should venture into this field of preparation of placement examinations so that there may be a natural outlet for the expression of unusual ingenuity and up-to-date movements in the making of examinations. It would seem reasonable that there should be about the same sort of competition for recognition of examinations of this sort as there is in the production of text-books."

These examinations should be of great value to the several departments since "within each department it is also important to know types of aptitude or lack of aptitude and to have a sort of profile of the individual's adaptation for a subject and qualification in it. For example, in English aptitude we may recognize several distinct types: there may be, in popular terms, the narrative type, the poetic type, the fiction type, the philologist type, and many variants of each of these. From another point of view we are interested in the student's ability to speak English, to comprehend what he reads in his mother tongue, and his natural powers of literary criticism. From a more formal point of view we are interested in the scope and character of his vocabulary, literary imagination, ability to apply the rules of writing, literary comprehension, and literary appreciation. Likewise, in a test of training, we may separate such features as ability in spelling, in punctuation and sentence structure, in grammar, and in clearness, emphasis and force in writing."

In a reply to a request from the Board of Investigation of Engineering Education that he propose that measure that would be most effective in awaking the engineering teacher to the presence and educational significance of individual differences in students he proposed the placement examination. The Board asked him to prepare such an examination and with the assistance of an organized group in the University of Iowa he prepared what has come to be known as "The Iowa Placement Examination." This has come to be widely used and a report of the results is about to be published.

Dr. Seashore calls attention to the fact that "the *reliability* of an examination is measured by the extent to which it will give the same result if repeated. The self-correlation of these tests prove to be from .87 to .94, which is a high and entirely satisfactory reliability. The *validity* of an examination of this kind is measured in terms of correlation between the prediction and some measure of

actual achievement or fulfillment. Unfortunately, the semester examination, the commonest measure of college achievement, is very unreliable; but it is at the present the best we have." "The average correlation in thirteen institutions for four placement examinations of two units each was .65, which is a higher prediction of grades in a single subject in college than has ever been obtained before by any form of examination on the same scale."

He warns us that "educational instruments of this kind are of value only as they are used sympathetically and with common sense and are improved technically from time to time as progress is made in the art of devising them," but is confident that "the placement examination does identify the gifted student at the very entrance to college on a concrete and tangible basis which educators can recognize. It places a new responsibility upon educators and opens up a new world of opportunity for the gifted student."

THE HISTORY OF THE UNITED STATES

The history of the United States is a story of growth and change. It begins with the first settlers who came to the Americas in search of a new life. They found a land of opportunity, but also a land of challenge. The early years were marked by struggle and hardship, but the spirit of the pioneers was unyielding. They built a nation from scratch, one that would stand as a beacon of freedom and democracy for all.

The story of the United States is a story of the American dream. It is a dream of a better life, of a land where everyone has a chance to succeed. The pioneers of the United States were the first to realize this dream. They built a nation that was based on the principles of liberty and justice for all. They created a society that was open to all, where anyone could rise to the top if they had the talent and the will.

The history of the United States is a story of progress and innovation. It is a story of the things that we have achieved as a nation. We have built a great country, one that is the envy of the world. We have created a society that is based on the principles of freedom and democracy. We have made great strides in science, technology, and industry. We have become a world power, one that is respected and feared by all.

The history of the United States is a story of the American people. It is a story of the men and women who have shaped our nation. They were the pioneers, the explorers, the builders. They were the ones who gave us the United States. They were the ones who made the American dream a reality. They were the ones who created a nation that was based on the principles of liberty and justice for all.

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